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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,111	05/16/2005	Jacques Morineau	18846	3584

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EXAMINER

WEST, PAUL M

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/535,111	MORINEAU ET AL.
	Examiner Paul M. West	Art Unit 2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4 and 10 is/are rejected.
- 7) Claim(s) 5-9 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 05162005
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Objections***

1. Claims 5-9 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 5-9 have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 3 and 4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. Regarding claim 3, the specification does not describe the length of the probe being "variable", rather it only describes that the probe may be different lengths. The language in the specification appears to convey that the probe may exist at any number of a range of different lengths, while the language of the claim appears to convey that the length of the probe is adjustable.

5. Regarding claim 4, the specification does not describe the power supply having a variable frequency, rather it only describes that the frequency may exist within a range of values. The difference is that between one embodiment whose frequency is adjustable and any number of different embodiments with specific different values for the said frequency.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Dahl et al (4,284,951).

8. Regarding claim 1, Dahl et al teach a method of measuring the height of a liquid comprising: making, on an electric circuit powered with high frequency alternating current from source 32, a comparison between the impedance of a line probe 10 and a reference resistor 38 using a resistive measuring bridge (Fig. 3), the probe 10 submerged in a tank of fluid 12 of which the height is to be determined forming one arm of the bridge and the reference resistor 38 forming an opposite arm of the bridge, a comparison signal resulting from alternate measurement of the signal on each of the arms (i.e. the signal through resistor 38 must be measured and known in order to use

the measuring bridge to measure the impedance in probe 10); and processing the comparison signal to obtain the height of the liquid (Col. 3, lines 22-25).

9. Regarding claim 2, Dahl et al teach the probe 10 being metallic and of a straight-line shape (Col. 2, lines 22-27).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahl et al.

12. Regarding claim 3, Dahl et al are silent as to the length of the probe, but it would have been obvious to one of ordinary skill in the art to make the probe any length number of lengths between 0.1m and 10m because there are battery cells which would require liquid levels to be measured in this range.

13. Regarding claim 4, Dahl et al are silent as to the supply frequency of the circuit, however it would have been obvious to one of ordinary skill in the art to use an frequency between 4 Hz and 20 Hz because power supply systems using these frequencies common and readily available in the art.

14. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Holt (6,486,679) in view of Dahl et al.

15. Regarding claim 10, Holt teaches a circuit which measures an impedance using a circuit with a measuring bridge, logarithmic amplifier stage and differential amplifier stage (Fig. 3) for processing an impedance signal. Holt does not teach the impedance being that of an open-ended line submerged in a liquid whose height is to be measured. Dahl et al teach measuring impedance of an open-ended line 10 submerged in a liquid 12 whose height is to be measured. It would have been obvious to one of ordinary skill in the art to combine the teachings of Dahl with the measuring circuit of Holt because using a line probe with the impedance measuring circuit would allow the circuit to be used for a practical application and would give greater utility.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul M. West whose telephone number is (571) 272-8590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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